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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/133,766	08/12/98	HELM B	HELM-ET-ALPC

HM11/1215

THOMAS M GAIGANO
GALGANO & BURKE
300 RABRO DRIVE SUITE 135
HAUPPAUGE NY 11788

EXAMINER	
SCHWADRON,R	
ART UNIT	**PAPER NUMBER**
1644	

DATE MAILED: 12/15/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/133,766	Applicant(s) Helm et al.
	Examiner Ron Schwadron, Ph.D.	Group Art Unit 1644

☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *16-24* is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *16-24* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☒ received in Application No. (Series Code/Serial Number) *08/446,760*.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

15. Claims 16-24 are under consideration. Claims 1-15, 25-30 have been cancelled.

16. Drawings have been submitted which fail to comply with 37 CFR 1.84. Please see the enclosed form PTO-948.

17. The oath or declaration is defective. A new oath or declaration in compliance with 37 C.F.R. § 1.67(a) identifying this application by its Serial Number and filing date is required. See M.P.E.P. §§ 602.01 and 602.02.

The oath or declaration is defective because:

Non-initialed and/or non-dated alterations have been made to the oath or declaration. See 37 CFR 1.52(c). Non-initialed and/or non-dated alterations have been made to the address of Inventor Helm.

18. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

19. Claim 19 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

It is apparent that the RBL-2H3 cell line is required to practice the instant invention as cited in the claims. As a required element, the RBL-2H3 cell line must be known and readily available to the public or obtainable by a repeatable method set forth in the specification. If said cell line is not so obtainable or available, the enablement requirements of 35 U.S.C. 112, first paragraph, may be satisfied by a deposit of the instant cell line. See 37 CFR 1.802.

The specification does not provide a repeatable method for obtaining the RBL-2H3 line. There is no indication that the RBL-2H3 cell line was publicly available and there is inadequate guidance in the specification as to how the RBL-2H3 cell line was produced.

In addition, the identifying information set forth in 37 CFR 1.809 (d) should be added to

the specification. See 37 CFR 1.801-1.809 for additional explanation of these requirements.

The requirements under 37 CFR 1.808 can be met by submission of an affidavit or declaration by applicants or someone associated with the patent owner who is in a position to make such assurances, or a statement by an attorney of record over his or her signature, stating that the deposit has been made under the terms of the Budapest Treaty and that all restrictions imposed by the depositor on the availability of the public of the deposited material will be irrevocably removed upon the granting of a patent, would satisfy the deposit requirements. See 37 CFR 1.808.

20. Claim 17 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the claimed method which uses human serum containing IgE, does not reasonably provide enablement for the claimed inventions. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

There is no disclosure in the specification of the claimed method which uses a "sensitizing agent" other than IgE, and no disclosure of a source of material containing IgE for use in the claimed method other than IgE containing serum. There is no disclosure in the specification as to the identity of other potential "sensitizing agents" for use in the claimed method or guidance as to how the identity of such agents would be elucidated. There is no disclosure in the specification of a source of IgE other than human serum for use in the claimed invention. The enablement provided in the specification is not commensurate with the scope of the claimed invention.

21. Claims 16-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 16 and 17 are indefinite in the recitation of "sensitizing agent" because it is unclear what this term means or encompasses. This term has no art recognized definition and is not defined in the specification. Claims 17-19 are indefinite in the recitation of "secretor variant" because it is unclear what this term means or encompasses. This term has no art recognized definition and is not defined in the specification.

22. Regarding priority with regards to the application of prior art, there is no disclosure of the inventions of claims 17,18,20,24 in foreign priority document GB 9224956.4. Regarding claims 17 and 18, there is no disclosure in foreign priority document GB 9224956.4 of the method of claim 17 using "secretor variant of mast cell or basophil liniage and is transfected with a moiety capable of binding human IgE" or using a "high-secretor variant". Foreign priority document GB 9224956.4 does disclose the method of claim 19. Regarding claims 20 there is no disclosure in foreign priority document GB 9224956.4 of the method of claim 17 using a "marker". Foreign priority document GB 9224956.4 does disclose the method of claim 19 using a radioactive marker. Regarding claims 24 there is no disclosure in foreign priority document GB 9224956.4 of the method of claim 24 using an "immunoassay".

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having
> ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

24. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson et al. (J. Clin. Immunoassay).

Wilson et al. teach the RBL-2H3 cell line transfected with the α chain of the human FcεR1 (see Table 1), which is a "secretor variant" of untransfected RBL-2H3 cell line, in that the untransfected RBL-2H3 does not respond in a secretory manner to human IgE (see page 91, column 2, last paragraph). Wilson et al. teach a test allergen (eg. see Figures 1-3). Wilson et al. teach a means to determine the absence or presence of an immune response (see abstract). Wilson et al. teach the use of a radioactive marker (eg. tritiated 5HT) to measure the immune response of allergen challenged IgE sensitized RBL-2H3 cell line transfected with the α chain of the human FcεR1. Wilson et al. do not teach the claimed method. Wilson et al. teach that "following sensitization with hIgE or anti-hFcεR1α antibody, transfected clones support the release of mast cell mediators such as 5-hydroxytryptamine and histamine upon challenge with antigen or cross

linking antibody."(page 240, column 2). A routineer would have used the aforementioned method to screen for allergenicity of a substance because Wilson et al. teach that sensitized transfected clones support the release of mast cell mediators such as 5-hydroxytryptamine and histamine upon challenge with allergen antigen. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have created the claimed invention because Wilson et al. teach the RBL-2H3 cell line transfected with the α chain of the human FcεR1 (see Table 1), which is a "secretor variant" of untransfected RBL-2H3 cell and the use of said cell line to study allergic sensitization and a routineer would have used the aforementioned method to screen for allergenicity of a substance because Wilson et al. teach that sensitized transfected clones support the release of mast cell mediators such as 5-hydroxytryptamine and histamine upon challenge with allergen antigen. One of ordinary skill in the art would have been motivated to do the aforementioned because Wilson et al. teach that "following sensitization with hIgE or anti-hFcεR1α antibody, transfected clones support the release of mast cell mediators such as 5-hydroxytryptamine and histamine upon challenge with antigen or cross linking antibody."(page 240, column 2).

25. Claims 16-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cantor et al. (US Patent 4,559,310) in view of Gilfillan et al. and Levi-Schaffer et al.

Cantor et al. teach methods for the determining the allergic status of an individual that utilize mast cell lines. Cantor et al. teach that mediators are released by mast cells after sensitization to an allergen and exposure to an allergen (see Abstract).

Cantor et al, do not teach that the mast cell line is a "secretor variant". Cantor et al. teach that the response of the mast cell can be measured by assaying the release of secreted mediators such as histamine, which are measured using immunoassays including radioimmunoassays (eg. which would utilize radiolabelled histamine, see column 9). A routineer would have used any art known immunoassay (eg. ELISA using chromogen) to measure the release of mast cell mediators. A routineer would measured any mediator which the art recognized as being produced by mast cells such as arachadonic acid. Gilfillan et al. teach the RBL-2H3 cell line transfected with the α chain of the human FcεR1 (see Table 1), which is a "secretor variant" of untransfected RBL-2H3 cell line, in that the untransfected RBL-2H3 does not respond in a secretory manner to human IgE (see page 91, column 2, last paragraph). Gilfillan et al. teach that RBL-2H3 cell line transfected with

the α chain of the human FcεR1 can be sensitized via exposure to human IgE (see page 2447, column 2). Gilfillan et al. teach that RBL-2H3 cell line transfected with the α chain of the human FcεR1 mediates all of the signal transduction events mediated by the untransfected RBL-2H3 cell when the untransfected cell line is exposed to rat IgE. Thus, Gilfillan et al. establish that the RBL-2H3 cell line transfected with the α chain of the human FcεR1 is functionally active with regards to the ability of said cell line to mediate human IgE/human FcεR1 interaction mediated responses. Cantor et al. teach the desirability of using mast cells derived from the species to be tested in assays for determining allergic sensitivity. A routineer would have used the RBL-2H3 cell line transfected with the α chain of the human FcεR1 in the methods taught by Cantor et al. as a convenient source of human IgE reactive mast cells. Levi-Schaffer et al. teach that mast cells activation results in the release of mediators that cause the signs and symptoms of the allergic response (see page 308). Levi-Schaffer et al. teach that mast cells respond to IgE dependent or IgE-independent activators (see page 308)). A routineer would have used the aforementioned methods in the absence of a sensitizing agent to screen for allergenicity of a substance because Levi-Schaffer et al. teach that mast cell activation results in the release of mediators that cause the signs and symptoms of the allergic response (see page 308) and that mast cells respond to IgE-independent activators . It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have created the instant inventions because Cantor et al. teach methods for the determining the allergic status of an individual that utilize mast cell lines, while Gilfillan et al. teach that RBL-2H3 cell line transfected with the α chain of the human FcεR1 can be sensitized via exposure to human IgE (see page 2447, column 2) and Levi-Schaffer et al. teach that mast cell activation results in the release of mediators that cause the signs and symptoms of the allergic response (see page 308) and that mast cells respond to IgE dependent or IgE-independent activators. One of ordinary skill in the art would have been motivated to do the aforementioned because Levi-Schaffer et al. teach that mast cell activation results in the release of mediators that cause the signs and symptoms of the allergic response, thus indicating that the antigen which causes mast cell activation is an allergen and because Levi-Schaffer et al. teach that mast cells respond to IgE dependent or IgE-independent activators.

26. No claim is allowed.

27. Papers related to this application may be submitted to Group 1600 by facsimile transmission. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). Papers should be faxed to Group 1600 at (703) 305-3014.

28. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Ron Schwadron whose telephone number is (703) 308-4680. The examiner can normally be reached Tuesday through Friday from 8:30 to 6:00. The examiner can also be reached on alternative Mondays. A message may be left on the examiners voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Christina Chan can be reached on (703) 308-3973. Any inquiry of a general nature or relating to the status of this application should be directed to the Group 1600 receptionist whose telephone number is (703) 308-0196.

Ron Schwadron, Ph.D.
Primary Examiner
Art Unit 1644
December 10, 1998

RONALD B. SCHWADRON
PRIMARY EXAMINER
GROUP ~~1800~~ 1600